Bills of health were issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage.
Apr. 1	Chickahominy	New Orleans	46	0	0	0
4	Brewster	do	32	0	0	0
5	Harald	Mobile	19	0	0	0
5	Fort Gaines	do	23	0	0	0

Sanitary conditions.

Owing to the occurrence of a case of yellow fever in this place, and the death of the patient February 21, 1906, the port can be classed as infected. The origin of the infection in this case has never been determined. No other cases have been reported.

Extensive works are now in progress to raise the grade of the town and install a system of sewers. This will fill the swampy portions of the town and lessen the number of mosquito-breeding places. Rain barrels are numerous.

PHILIPPINE ISLANDS.

Reports from Manila—Smallpox—Decrease of cholera in the provinces—Anticholera vaccination—Treatment of vessels—Review of plague and its causes in Japan—Quarantine circular.

Chief Quarantine Officer Heiser reports, March 8 and 17, as follows:

During the week ended March 3, 1906, no quarantinable diseases were reported for the city of Manila. During the week 90 cases and 78 deaths from cholera were reported from the provinces.

There has been a great decrease in the number of cholera cases reported from the provinces. From an average of about 50 per day, the number of cases has dropped to about 5 per day. The improvement in the situation is attributed to the very vigorous measures which the bureau of health began to put into effect about two weeks ago.

In the town of Angat several thousand persons were vaccinated with the anticholera vaccine.

On March 2 the American barkentine *Jos. L. Eviston* entered five days' quarantine prior to her departure for Port Townsend and remained in quarantine at the end of the week.

Week ended March 10, 1906: Quarantinable disease reported for the city of Manila as follows: Smallpox, 4 cases, 1 death.

During the week 49 cases and 35 deaths from cholera were reported from the provinces.

Review of plague and its causes in Japan.

A paper of particular interest to the Service, read at the third annual meeting of the Philippine Islands medical association, was that of Dr. S. Kitasato, of the Institute of Infectious Diseases, at Tokyo,

entitled "Fighting plague in Japan," of which the following is a summary:

In 1896 plague, which had broken out in India and Hongkong, soon spread to Formosa, and it was particularly from the latter point that Japan was threatened. Strict quarantine and other sanitary measures were directed against that island, with entirely successful results. The first vessel that arrived in Japan with plague on board was found at the port of Yokohama in 1896. Since that time vessels infected with plague have arrived frequently at Nagasaki, Kobe, and Moji.

Doctor Kitasato stated that in his opinion the introduction of plague into Japan was not caused by persons, but by freight, and in all probability in cargoes of cotton from India and Hongkong; that at first the danger of cargo was not appreciated, and in consequence the infection spread rapidly at the principal seaports. The rats soon became infected, and from them human beings, in all probability, contracted plague. Since then the principal outbreaks of plague in Japan occurred in 1899–1900 and in 1902–3. In both of these epidemics the disease was probably introduced with cotton imported from Hongkong.

The last outbreak occurred in Kobe and Osaka in 1905, and as yet has not been stamped out. This outbreak was considered to be one of the worst from which Japan has yet suffered. The total number of cases of plague in Japan during 1905 was as follows: Tokyo, 15; Osaka, 134; Kagawa, 36; Moji, 9; Chiba, 11; Nara, 2; Kobe, 90. Total, 297.

The first epidemic could be traced to the importation of raw cotton and Chinese rice, from Bombay and Hongkong, respectively. The second epidemic entered through Yokohama in cargo which consisted of raw cotton, and the present epidemic at Kobe and Osaka could be traced to a steamer that entered Kobe with raw cotton.

The experience in Japan with plague has been that it generally attacks rats first and man afterwards. In February, 1905, many infected rats were found in Kobe, but it was not until May that human victims were detected. More infected rats were found in winter epidemics than in summer epidemics.

To prevent the introduction of plague into Japan, the country depended, first, upon its quarantine service, but with this alone the safety of the country could not be assured. In order to combat the disease most successfully the country has been divided into a number of small sanitary districts, in each of which a local board of health has jurisdiction. Doctor Kitasato expressed the opinion that one of the very best methods of prophylaxis was that adopted by the Public Health and Marine-Hospital Service of the United States in sending properly qualified medical officers for duty at the principal ports, and particularly those from which plague infection might be expected to enter. He stated that by such means the country enjoyed greater security from the introduction of such diseases as plague than from any other measure which had been suggested up to the present time.

After the disease has once gained entrance to the country the most successful method of combating it is by the destruction of rats. If rats could be eliminated, the disease could be expected to disappear. In Tokyo alone 3,000 to 4,000 rats were examined daily for plague bacilli. By the examination of rats the presence of plague and future outbreaks could be predicted with almost absolute certainty. Japan has several times been protected against an outbreak of the disease by

the detection of plague among rats and by then taking precautions in advance. The best method of eradicating rats was by the proper construction of warehouses and other places where rats are likely to breed. San Francisco is an excellent example of what improvement in construction of buildings could accomplish with the view of eliminating the rat question.

The present plan was, whenever a case of plague was found in a house, to have such premises surrounded by a zinc wall that extended about 3 feet above the ground and about 2 feet under the ground. By this means rats could be prevented from escaping over the wall or burrowing under it. Rat catchers were then sent into this inclosure to destroy the rats, and thereby prevent the spread of the infection.

The value of vaccination against plague was noted. In Formosa, out of 10,176 persons vaccinated against plague, only 7 were attacked, while out of 40,000 who were unvaccinated more than 500 were infected.

For the treatment of those actually stricken, two methods are in use: The one, the extirpation of the bubo, and the other, the treatment with serum. If the cases were seen early, the prognosis was not absolutely hopeless, but if seen late, not much hope could be held out to the victim.

Again referring to the destruction of rats, the accomplishment of this purpose seemed almost hopeless. In Tokyo 4,800,000 rats had been destroyed; still no decrease in the number was noticeable. Referring to the plan suggested by a recent writer that *Mus decumanus* be introduced into communities, because it was the bitter enemy of the *Mus rattus* and would probably soon destroy its enemy—the benefit to be derived from this being that the *Mus decumanus* is not liable to contract plague, while the *Mus rattus* is very susceptible to the disease and is the species to which the transmission of plague can be almost entirely ascribed—the plan seems impracticable, because thetwo species interbreed and the offspring readily contract plague.

The introduction of plague in the open ports must increase in the proportion that international commerce increases, and, unfortunately, wherever man fixes his abode the rat usually follows him.

The best hope of successfully dealing with plague seems to lie in the calling of an international congress, in which the delegates could pledge substantial financial support for the purpose of combating plague in its great epidemic centers, southern China and India. In other words, a great international sanitary army should go forth to fight plague in those countries, and if once eliminated there the disease could be readily stamped out in the remainder of the world, and then plague would disappear from the face of the earth.

Doctor Kitasato stated he hoped that President Roosevelt would take the initiative in this matter and call an international sanitary congress to put into operation the plan which he suggested.

During the week vessels cleared for United States ports as follows:

On March 6, 1906, the United States army transport *Sheridan*, with 188 crew and 693 passengers, was granted a bill of health for San Francisco via Nagasaki and Honolulu. Crew and steerage passengers were bathed and their baggage disinfected. Cargo either disinfected or passed after inspection. Vessel partially disinfected. All persons on board inspected at the hour of sailing.

On March 6, 1906, the barkentine *Jos. L. Eviston*, which remained in quarantine from last week, was released and granted a bill of health for Port Townsend.

On March 9, 1906, the British steamship *Saint George*, with 35 crew, en route from Kobe to New York, was granted a supplemental bill of health. All persons on board were inspected at hour of sailing.

CIRCULAR.

MANILA, P. I., *March 15, 1906.*

To the owners and agents of vessels and others concerned:

Commencing March 19, 1906, and until further notice, the following quarantine regulations will govern vessels leaving Manila for other ports in the Philippines:

1. Vessels leaving Manila for ports outside of Manila Bay must obtain a bill of health at this office.

2. Vessels bound only for points on the west coast of Luzon, between San Fernando, Union, and Mulanay, Tayabas, will, after obtaining a bill of health, be expected to anchor in the harbor of Manila, well removed from the shipping of the port. After anchoring they will fly the quarantine flag, after which a quarantine officer will board the vessel as soon as practicable, and if the result of his inspection is satisfactory the vessel will be permitted to proceed without further detention.

3. All vessels leaving Manila for Philippine ports outside of the district limited by San Fernando, Union, on the north, and Mulanay, on the south, will be held twenty-four hours at Mariveles for inspection. This applies to all vessels, even though their first port of call is within the district before mentioned.

4. Masters of vessels sailing under these restrictions must agree to return to Mariveles with their vessels, entire personnel, and cargo, in the event of any suspicious sickness occurring on board during the voyage (e. g., severe vomiting, cramps, diarrhea, etc.).

5. Presidents of provincial boards of health will be expected to quarantine for a period of twenty-four hours, all vessels that leave the west coast of Luzon, between the ports of San Fernando, Union, and Mulanay for ports outside of these limits. This does not apply to vessels which have already undergone detention during the same voyage at Mariveles.

6. Bona fide first-cabin passengers may go aboard all outgoing vessels at Mariveles at any time prior to vessel's departure by simply making verbal application to the quarantine officers at Mariveles.

7. No fresh vegetables or fruits, or other questionable cargo, shall be received aboard vessels as cargo, baggage, or ship's stores, except in accordance with the provisions of circular letter of this office of August 31, 1905.

8. All previous outgoing quarantine regulations promulgated by this office, which are in conflict with this circular, are hereby abolished.

VICTOR G. HEISER,
Chief Quarantine Officer for Philippine Islands.